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(54) Title: **HEPARIN-BINDING PEPTIDES AND USES THEREOF**

(57) Abstract: Heparin-binding peptides are provided of the formula $R_1(X_1B_1B_2B_3X_2X_3Y_1R_2)_nR_3$, $R_1(X_1B_1B_2B_3X_2X_3B_4X_4Y_1R_2)_nR_3$, and $C(X_1B_1B_2B_3X_2X_3B_4X_4)_nC$; wherein X_1 , X_2 , X_3 , and X_4 are independently selected from the group consisting of hydrophobic amino acids; B_1 , B_2 , B_3 , and B_4 are independently selected from the group consisting of basic amino acids; C is cysteine; Y_1 is zero or one to ten amino acid residues, wherein at least one amino acid residue is proline; n is an integer from one to ten; and R_1 , R_2 , and R_3 are independently selected segments containing from zero to twenty amino acid residues, provided, at least one of the segments R_1 , R_2 , and R_3 comprises at least one hydrophobic amino acid residue. The peptide $C(X_1B_1B_2B_3X_2X_3B_4X_4)_nC$ is optionally cyclized via a disulfide bond formed between cysteine residues. The peptides are administered to reduce plasma LMWH and heparin levels and to reduce the anticoagulant effects of heparin and LMWH. The peptides are also administered to inhibit microbial growth and to inhibit mast cell serine proteases involved in various diseases and disorders. The peptides are also administered as carriers to deliver active agents.

WO 2005/014619 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/09668

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61K 38/00

US CL : 514/8

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 514/8

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,877,153 (HARRIS et al.) 02 March 1999 (03.03.1999), entire document, especially title/abstract, claims 18-20.	1-65
Y	US 2003/0069170 A1 (SOLTERO et al.) 10 April 2003 (10.04.2003), entire document, especially para 73, 119, 120, 122, 123,.	1-65

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

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INTERNATIONAL SEARCH REPORT

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Continuation of B. FIELDS SEARCHED Item 3:

EAST (USPTO Internal). Note: Sequence Listing was unsearchable (Errors) and only a general search of the invention could therefore be undertaken.